

MINOR SOURCE OPERATING PERMIT OFFICE OF AIR MANAGEMENT

**Skyline Bristol, Plant 111
State Road #15
Bristol, Indiana 46507**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 039-12326-00308	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

TABLE OF CONTENTS

SECTION A SOURCE SUMMARY

- A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]
- A.2 Emissions units and Pollution Control Equipment Summary

SECTION B GENERAL CONSTRUCTION CONDITIONS

- B.1 Permit No Defense [IC 13]
- B.2 Definitions
- B.3 Effective Date of the Permit [IC13-15-5-3]
- B.4 Modification to Permit [326 IAC 2]

SECTION C SOURCE OPERATION CONDITIONS

- C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]
- C.2 Preventive Maintenance Plan [326 IAC 1-6-3]
- C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]
- C.4 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]
- C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]
- C.6 Permit Revocation [326 IAC 2-1-9]
- C.7 Opacity [326 IAC 5-1]
- C.8 Fugitive Dust Emissions [326 IAC 6-4]
- C.9 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]
- C.10 Stack Height [326 IAC 1-7]

Testing Requirements

- C.11 Performance Testing [326 IAC 3-6]

Compliance Monitoring Requirements

- C.12 Compliance Monitoring [326 IAC 2-1.1-11]
- C.13 Monitoring Methods [326 IAC 3]
- C.14 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]
- C.15 Actions Related to Noncompliance Demonstrated by a Stack Test

Record Keeping and Reporting Requirements

- C.16 Malfunctions Report [326 IAC 1-6-2]
- C.17 Annual Emission Statement [326 IAC 2-6]
- C.18 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]
- C.19 General Record Keeping Requirements [326 IAC 2-6.1-2]
- C.20 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]
- C.21 Annual Notification [326 IAC 2-6.1-5(a)(5)]

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emission Limitations and Standards

- D.1.1 Particulate Matter (PM) [326 IAC 6-3]
- D.1.2 Preventive Maintenance Plan [326 IAC 1-1-6-3]

Compliance Determination Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

- D.1.3 Testing Requirements [326 IAC 2-1. 1-11]
- D.1.4 Particulate Matter (PM)

TABLE OF CONTENTS (Continued)

Compliance Monitoring Requirements [326 IAC 2-5.1-3 (e)(2)] [326 IAC 2-6.1-5(a)(2)]

- D.1.5 Baghouse Inspections
- D.1.6 Cyclone Inspections
- D.1.7 Visible Emissions Notations
- D.1.8 Broken or Failed Bag Detection for the Baghouse
- D.1.9 Broken or Failure Detection for the Cyclone

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

- D.1.10 Record Keeping Requirements

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

- D.3.1 Record Keeping Requirements

Annual Notification

Malfunction Report

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary manufactured home production plant.

Authorized Individual: **Bill Metzger**
Source Address: **State Road #15, Bristol, Indiana 46507**
Mailing Address: **P.O. Box 217 Bristol, Indiana 46507**
Phone Number: **219-848-7621**
SIC Code: **2451**
County Location: **Elkhart**
County Status: **Attainment for all criteria pollutants**
Source Status: **Minor Source Operating Permit**
Minor Source, under PSD

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

- (a) One (1) woodworking shop equipped with various wood cutting saws with a maximum capacity of one (1) floor per hour and vented to one (1) cyclone exhausting outside the building through stack No. 2.
- (b) One (1) gypsum operation with various cutting saws with a maximum capacity of one (1) floor per hour and vented to a baghouse dust collector then vented internally.
- (c) Twenty-nine (29) natural gas space heaters, heated at a total of 4.9 million British thermal units (MMBtu) per hour, exhausting at twenty-nine (29) stacks, identified as Stacks 3 through 31.
- (d) Facility is also using caulks, sealants, cleaners, and other miscellaneous VOC containing materials used to assemble manufactured homes for a maximum of one (1) floor per hour.

SECTION B GENERAL CONSTRUCTION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to operate does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Modification to Permit [326 IAC 2]

All requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

- (a) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).
- (b) Pursuant to 326 IAC 2-6.1-7, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in the validation letter. If IDEM, OAM, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied. The operation permit issued shall contain as a minimum the conditions in Section C and Section D of this permit.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

C.1 PSD Minor Source and Part 70 Status [326 IAC 2-2] [40 CFR 52.21] [326 IAC 2-7]

- (a) The total source limited potential to emit of all criteria pollutants including the proposed modifications is less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.
- (b) Any change or modification which may increase potential to emit to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAM prior to making the change.
- (c) Any change or modification which may increase potential to emit (as defined in 326 IAC 2-7-1 (29)) of all criteria pollutants more than one hundred (100) tons per year or the potential to emit (as defined in 326 IAC 2-7-1(29)) any single HAP more than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) a combination HAPs more than twenty-five (25) tons per year, shall cause the source to be considered a major source under 326 IAC 2-7-1(22) and 40 CFR Part 70, and shall require approval from IDEM, OAM prior to making the change.

C.2 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAM within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.4 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAM, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAM, Permits Branch within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAM shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.6 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.7 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.8 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.9 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan to be submitted by the permittee to IDEM.

C.10 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

Testing Requirements

C.11 Performance Testing [326 IAC 3-6]

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if

specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.12 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.13 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.14 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]

- (a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:
- (1) This condition;
 - (2) The Compliance Determination Requirements in Section D of this permit;
 - (3) The Compliance Monitoring Requirements in Section D of this permit;
 - (4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and

- (5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of :
 - (A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and
 - (B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.
- (b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.
- (c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:
 - (1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;
 - (3) An automatic measurement was taken when the process was not operating; or
 - (4) The process has already returned to operating within "normal" parameters and no response steps are required.
- (d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected emissions unit while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the

notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.

- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected emissions unit.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.16 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.17 Annual Emission Statement [326 IAC 2-6]

- (a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by April 15 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:
 - (1) Indicate actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);
 - (2) Indicate actual emissions of other regulated pollutants from the source, for purposes of Part 70 fee assessment.

- (b) The annual emission statement covers the twelve (12) consecutive month time period starting December 1 and ending November 30. The annual emission statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

- (c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.18 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.
- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.19 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the

Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
 - (1) Copies of all reports required by this permit;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.
- (d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.20 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

- (c) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.21 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted to the Office of Air Management stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Data Section, Office of Air Management
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015
- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM on or before the date it is due.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Facility Description:

- (a) One (1) woodworking shop equipped with various wood cutting saws with a maximum capacity of one (1) floor per hour and vented to one (1) cyclone exhausting outside the building through stack No. 2.
- (b) One (1) gypsum operation with various cutting saws with a maximum capacity of one (1) floor per hour and vented to a baghouse dust collector then vented internally.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.1.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the woodworking and gypsum operation shall not exceed 12.1 pounds per hour when operating at a process weight rate of 10,000 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.2 Preventive Maintenance Plan [326 IAC 1-1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this emissions unit and its control device.

Compliance Determination Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.3 Testing Requirements [326 IAC 2-1. 1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.4 Particulate Matter (PM)

Pursuant to CP-039-4346-00308, issued on September 8, 1995, the cyclone and baghouse for PM control shall be in operation at all times when gypsum and woodworking is being conducted.

Compliance Monitoring Requirements [326 IAC 2-5.1-3 (e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.5 Baghouse Inspections

An optional inspection each calendar quarter of all bags controlling the gypsum operation may be performed. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. All defective bags shall be replaced.

D.1.6 Cyclone Inspections

An inspection shall be performed each calendar quarter of the cyclone controlling the woodworking operation when venting to the atmosphere. An inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors.

D.1.7 Visible Emissions Notations

- (a) Daily visible emission notations of the Stack No. 2 exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during the past of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for the specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.1.8 Broken or Failed Bag Detection for the Baghouse

In the event that bag failure has been observed:

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Preventative Maintenance Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Preventative Maintenance Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as a malfunction and the Permittee satisfies the requirements of the malfunction provisions of this permit (Section C - Malfunction Provisions).
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as a malfunction and the Permittee satisfies the requirements of the malfunction provisions of this permit (Section C - Malfunction Provisions).

D.1.9 Broken or Failure Detection for the Cyclone

In the event that a cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as a malfunction and the Permittee satisfies the requirements of the malfunction provisions of this permit (Section C - Malfunction Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.10 Record Keeping Requirements

- (a) To document compliance with condition D.1.5 and D.1.6, the Permittee shall maintain records of the results of the inspections required under Condition D.1.5 and D.1.6 and the dates the vents are redirected.
- (b) To document compliance with Condition D.1.7, the Permittee shall maintain records of visible emission notations of the cyclone stack exhaust daily.
- (c) To document compliance with Conditions D.1.8 and D.1.9, the Permittee shall maintain records of any failed or broken units or bags of the cyclone and baghouse.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

(c) Twenty-nine (29) natural gas space heaters, heated at a total of 4.9 million British thermal units (MMBtu) per hour, exhausting at twenty-nine (29) stacks, identified as Stack 3 through 31.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

There are no applicable emission limitations or standards for emission unit (c).

SECTION D.3

EMISSIONS UNIT OPERATION CONDITIONS

(d) facility is also using caulks, sealants, cleaners, and other miscellaneous VOC containing materials used to assemble manufactured homes for a maximum of one (1) floor per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.3.1 Record Keeping Requirements

- (a) The permittee shall maintain records in accordance with (1) and (2) below. Records maintained for (1) and (2) shall be taken annually and shall be complete and sufficient to establish compliance with the VOC usage limits and/or to remain below the VOC emission limits established in 326 IAC 8-1-6.
 - (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (2) The total VOC usage for each year.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	Skyline Bristol, Plant 111
Address:	State Road #15
City:	Bristol, Indiana 46527
Phone #:	219-848-7621
MSOP #:	039-12326-00308

I hereby certify that Skyline Bristol, Plant 111

Bristol, Indiana is: ☒ still in operation.
 ☒ no longer in operation.

I hereby certify that Skyline Bristol, Plant 111

Bristol, Indiana is: ☒ in compliance with the requirements of MSOP 039-12326-00308
 ☒ not in compliance with the requirements of MSOP 039-12326-00308

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR MANAGEMENT FAX NUMBER - 317 233-5967

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ? _____, 25 TONS/YEAR SULFUR DIOXIDE ? _____, 25 TONS/YEAR NITROGEN OXIDES ? _____, 25 TONS/YEAR VOC ? _____, 25 TONS/YEAR HYDROGEN SULFIDE ? _____, 25 TONS/YEAR TOTAL REDUCED SULFUR ? _____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ? _____, 25 TONS/YEAR FLUORIDES ? _____, 100 TONS/YEAR CARBON MONOXIDE ? _____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ? _____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ? _____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ? _____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ? _____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ PHONE NO. () _____
LOCATION: (CITY AND COUNTY) _____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO₂, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____
INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for a Minor Source Operating Permit

Source Name:	Skyline Bristol, Plant 111
Source Location:	State Road #15, Bristol, Indiana 46507
County:	Elkhart County
SIC Code:	2451
Operation Permit No.:	039-12326-00308
Permit Reviewer:	ERG/EG

On August 15, 2000, the Office of Air Management (OAM) had a notice published in the Elkhart Truth, Goshen, Indiana, stating that Skyline Bristol, Plant 111 had applied for a Minor Source Operating Permit to operate a stationary source that produces manufactured homes. The notice also stated that OAM proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Responses to Skylines' Comments

On October 16, 2000, Skyline submitted comments on the proposed Minor Source Operating Permit. The following is a summary of the comments. In the responses, additions to the permit are bolded for emphasis; the language with a line through it has been deleted. The Table of Contents has been modified to reflect these changes.

C.9 Fugitive Dust Emissions [326 IAC 6-4]

Comment 1:

The source requested an exemption from the need to develop and submit a fugitive dust control plan (Condition C.9). The source has minimal opportunities for fugitive dust to be generated.

Response to Comment 1:

The draft permit did not specify the source to submit a fugitive dust control plan. The source is required to prevent visible fugitive dust from crossing the boundary or property line of the source. No change was made as a result of this comment.

Comment 2:

It is unclear why a semi-annual compliance monitoring report is required. It is recommended that this condition be combined with C.21 and an annual report addressing both concerns be required. Thus eliminating an unclear requirement and streamline reporting requirements.

Response to Comment 2:

Typically, the semi-annual Compliance Monitoring Reports are only required for Part 70 and FESOP sources. However, there may be situations where reports will be required upon request from IDEM.

The condition will be deleted and revised as follows (deleted language in ~~strikeout~~, added language in **bold**).

C.20 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- ~~(a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a semi-annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~
- (a)(b)** The report required in (a) of this condition and **R**Reports required by conditions in Section D of this permit shall be submitted to:
- Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (b)(e)** Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.
- ~~(d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The semi-annual reporting period is from January 1 through June 30 and July 1 through December 31. The report does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~
- ~~(e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:~~
- ~~(1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or~~
- ~~(2) A malfunction as described in 326 IAC 1-6-2; or~~

~~(3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.~~

~~(4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.~~

~~A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.~~

~~(f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.~~

~~(c)(g)~~ The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

Comment 3:

If Condition C.20 is not combined with Condition C.21, the report required in Condition C.20 should be revised to specifically state the dates when the reports are due.

Response to Comment 3:

The report in Condition C.20 has been deleted from the permit. See response to comment 2 for the revised Condition C.20.

Comment 4:

Delete Condition D.1.10 (b) requiring daily visible emission notations. Other recently issued permits for similar facilities do not have these conditions and this record keeping represents an unreasonable burden.

Response to Comment 4:

The visible emission notations are used to indicate compliance with 326 IAC 5-1 and 326 IAC 6, without the requirement to have a person on site trained in opacity measurement. This requirement is designed as a trigger that the source perform some corrective action on the facility if visible emissions are abnormal, to ensure continuous compliance with emission limitations.

However, records are only required daily not once per shift for woodworking operations and only for emissions vented to the outside atmosphere. Condition D.1.10 will be changed as follows.

(b) To document compliance with Condition D.1.7, the Permittee shall maintain records of visible emission notations of the cyclone and baghouse stack exhaust ~~once per shift~~ daily.

Comment 5:

This facility has been in operation since 1978 and is not considered a new facility. As such, this condition and any reference to 326 IAC 8-1-6 should be deleted. It is unclear why the statement "as agreed to by the source" is included.

Response to Comment 5:

Section D.3.1, D.3.3, and D.3.4 will be deleted there are no applicable requirements to emission units (e). However, records are required to be maintained for the use of caulks, sealants, cleaners, and other miscellaneous VOC containing materials to verify that their increased use does not trigger the applicability of 326 IAC 8-1-6. These materials have been in use since the source began operation in 1978, before the applicability date of 326 IAC 8-1-6. However, with this permit, the source will increase the use of these materials but not adding any new application equipment (caulk, guns, brushes, etc.). The emissions will not increase more than 25 tons per year, therefore, 326 IAC 8-1-6 does not apply.

Comment 6:

Condition D.3.3 requirement should be deleted because this is not a new facility and 326 IAC 8-1-6 referred to in D.3.1 does not apply.

Response to Comment 6:

Condition D.3.3 was deleted, see response to comment 5 for more explanation.

Comment 7:

Condition D.3.4 requirement should be deleted because this is not a new facility and 326 IAC 8-1-6 referred to in D.3.1 does not apply. The facility maintains records on raw material usage to support VOC calculations should they become necessary. However, calculating monthly emissions on a routine basis is an extremely time consuming and burdensome activity.

Response to Comment 7:

Condition D.3.4 was deleted, see response to comment 5 for more explanation.

Comment 8:

As mentioned in earlier comments, the facility is not a new facility and all references to D.3.1 should be deleted. Condition D.3.5 should be revised to require maintenance of records to demonstrate the quantities of VOC containing materials used. Monthly VOC emission calculations should not be required, nor are they necessary to demonstrate compliance with permit or regulatory requirements, or for annual report or emission statement requirements.

Response to Comment 8:

Condition D.3.5(a) will be revise to require annual records of VOC usage. Condition D.3.5(a)(1) requires the amount used of each coating and solvent used per month. Condition D.3.5(a)(2) requires the actual VOC usage per year be reported. Condition D.3.5(b) has been revised to be consistent with the record keeping requirements for the two other Skyline facilities in Indiana.

The condition has been revised to the following in the final permit (deleted language appears as ~~strikeouts~~, new language appears in **bold**).

D.3.5 Record Keeping Requirements

-
- (a) The Permittee shall maintain records in accordance with (1) ~~through (3)~~ and **(2)** below. Records maintained for (1) ~~through (3)~~ and **(2)** shall be taken ~~monthly~~ **annually** and shall be complete and sufficient to establish compliance with the VOC usage limits

and/or **to remain below** the VOC emission limits established in ~~Conditions D.3.1-3.4~~ **326 IAC 8-1-6**.

- (1) The amount of VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (2) The total VOC usage for each ~~month~~ **year**.
- (b) ~~To document compliance with Condition D.3.1, the Permittee shall maintain a log of monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.~~
- (e) **(b)** All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Comment 9:

Condition D.3.6 should be deleted. Please reference the above comments regarding semi-annual reporting and Condition D.3.1.

Response to Comment 9:

OAM agrees and Condition D.3.6 will be deleted.

Comment 10:

It is unclear why a Preventive Maintenance Plan, Compliance Response Plan and Compliance Monitoring Plan are necessary when all provisions can be addressed in the Preventive Maintenance Plan. Having multiple plans serving no clear purpose makes it more difficult for sources to focus on activities that enhance and ensure compliance. This requirement does not enhance compliance, but provides opportunities for confusion and non-compliance. These plans are not mentioned anywhere in the regulations, and IDEM has not responded to a request for guidance and clarification on the need for and content of these plans.

Response to Comment 10:

IDEM has worked with members of the Clean Air Act Advisory Council's Permit Committee, Indiana Manufacturing Association, Indiana Chamber of Commerce and individual applicants regarding the Preventive Maintenance Plan, the Compliance Monitoring Plan and the Compliance Response Plan. IDEM has clarified the preventive maintenance requirements by working with sources on draft language over the past two years. The plans are fully supported by rules promulgated by the Air Pollution Control Board. The plans are the mechanism each permittee will use to verify continuous compliance with its permit and the applicable rules and will form the basis for each permittee's Annual Compliance Certification. Each permittee's ability to verify continuous compliance with its air pollution control requirements is a central goal of the permit programs.

The regulatory authority for and the essential elements of a compliance monitoring plan were clarified in IDEM's Compliance Monitoring Guidance, in May 1996. IDEM originally placed all the preventive maintenance requirements in the permit section titled "Preventive Maintenance Plan." Under that

section the permittee's Preventive Maintenance Plan (PMP) had to set out requirements for the inspection and maintenance of equipment both on a routine basis and in response to monitoring. Routine maintenance was a set schedule of inspections and maintenance of the equipment. The second was inspection and maintenance in response to monitoring that showed that the equipment was not operating in its normal range. This monitoring would indicate that maintenance was required to prevent the exceedance of an emission limit or other permit requirement. The maintenance plan was to set out the "corrective actions" that the permittee would take in the event an inspection indicated an "out of specification situation", and also set out the time frame for taking the corrective action. In addition, the PMP had to include a schedule for devising additional corrective actions for out of compliance situations that the source had not predicted in the PMP. All these plans, actions and schedules were part of the Preventive Maintenance Plan, with the purpose of maintaining the permittee's equipment so that an exceedance of an emission limit or violation of other permit requirements could be prevented.

After issuing the first draft permits on public notice, IDEM received comments from members of the regulated community regarding many of the draft permit terms, including the PMP requirements. One suggestion was that the corrective action and related schedule requirements be removed from the PMP requirement and placed into some other requirement in the permit. This suggestion was based, in some part, on the desire that a permittee's maintenance staff handle the routine maintenance of the equipment, and a permittee's environmental compliance and engineering staff handle the compliance monitoring and steps taken in reaction to an indication that the facility required maintenance to prevent an environmental problem.

IDEM carefully considered this suggestion and agreed to separate the "corrective actions" and related schedule requirements from the PMP. These requirements were placed into a separate requirement, which IDEM named the Compliance Response Plan (CRP). In response to another comment, IDEM changed the name of the "corrective actions" to "response steps." That is how the present CRP requirements became separated from the PMP requirement, and acquired their distinctive nomenclature.

Other comments sought clarification on whether the failure to follow the PMP was violation of the permit. The concern was that a permittee's PMP might call for the permittee to have, for example, three "widget" replacement parts in inventory. If one widget was taken from inventory for use in maintenance, then the permittee might be in violation of the PMP, since there were no longer three widgets in inventory, as required by the PMP. Comments also expressed a view that if a maintenance employee was unexpectedly delayed in making the inspection under the PMP's schedule, for example by the employee's sudden illness, another permit violation could occur, even though the equipment was still functioning properly.

IDEM considered the comments and revised the PMP requirement so that if the permittee fails to follow its PMP, a permit violation will occur only if the lack of proper maintenance causes or contributes to a violation of any limitation on emissions or potential to emit. This was also the second basis for separating the compliance maintenance response steps from the PMP and placing them in the Compliance Response Plan (CRP). Unlike the PMP, the permittee must conduct the required monitoring and take any response steps as set out in the CRP (unless otherwise excused) or a permit violation will occur.

The Compliance Monitoring Plan is made up of the PMP, the CRP, the compliance monitoring and compliance determination requirements in section D of the permit, and the record keeping and reporting requirements in sections C and D. IDEM decided to list all these requirements under this new name, the Compliance Monitoring Plan (CMP), to distinguish them from the PMP requirements. The section D provisions set out which facilities must comply with the CMP requirement. The authority for the CMP provisions is found at 326 IAC 2-1.1-11, 1-6-3 and 1-6-5.

Most permittees already have a plan for conducting preventive maintenance for the emission units and control devices. It is simply a good business practice to have identified the specific personnel whose job duties include inspecting, maintaining and repairing the emission control devices. The emission unit equipment and the emission control equipment may be covered by a written recommendation from the manufacturer set out schedules for the regular inspection and maintenance of the equipment. The permittee will usually have adopted an inspection and maintenance schedule that works for its particular equipment and process in order to keep equipment downtime to a minimum and achieve environmental compliance. The manufacturer may also have indicated, or the permittee may know from experience, what replacement parts should be kept on hand. The permittee may already keep sufficient spare parts on hand so that if a replacement is needed, it can be quickly installed, without a delay in the permittee's business activities and without an environmental violation. For the most part, the PMP can be created by combining present business practices and equipment manufacturer guidance into one document, the Preventive Maintenance Plan (PMP).

The permittee has 90 days to prepare, maintain and implement the PMP. IDEM is not going to draft the PMP. Permittees know their processes and equipment extremely well and are in the best position to draft the PMP. IDEM's air inspectors and permit staff will be available to assist the permittee with any questions about the PMP. IDEM may request a copy of the PMP to review and approve.

The Preventive Maintenance Plan requirement must be include in every applicable MSOP permit pursuant to 326 IAC 1-1.1-11. This Preventive Maintenance Plan rule sets out the requirements for:

- (1) Identification of the individuals responsible for inspecting, maintaining and repairing the emission control equipment (326 IAC 1-6-3(a)(1)),
- (2) The description of the items or conditions in the facility that will be inspected and the inspection schedule for said items or conditions (326 IAC 1-6-3(a)(2)), and
- (3) The identification and quantification of the replacement parts for the facility which the permittee will maintain in inventory for quick replacement (326 IAC 1-6-3(a)(2)).

It is clear from the structure of the wording in 326 IAC 1-6-3 that the PMP requirement affects the entirety of the applicable facilities. Only 326 IAC 1-6-3(a)(1) is limited, in that it requires identification of the personnel in charge of only the emission control equipment, and not any other facility equipment. The commissioner may require changes in the maintenance plan to reduce excessive malfunctions in any control device or combustion or process equipment under 326 IAC 1-6-5.

The CRP requirement of response steps and schedule requirements are another example of documenting procedures most permittees already have developed in the course of good business practices and the prevention of environmental problems. Equipment will often arrive with the manufacturer's trouble shooting guide. It will specify the steps to take when the equipment is not functioning correctly. The steps may involve some initial checking of the system to locate the exact cause, and other steps to place the system back into proper working order. Using the trouble shooting guide and the permittee's own experience with the equipment, the steps are taken in order and as scheduled until the problem is fixed.

A permittee will likely already have a procedure to follow when an unforeseen problem situation occurs. The procedure may list the staff to contact in order to select a course of action, or other step, before the equipment problem creates an environmental violation or interrupts the permittee's business process.

The Compliance Monitoring Plan (CMP) is consistent with IDEM's Compliance Monitoring Guidance released in May of 1996. The guidance discusses corrective action plans setting out the steps to take

when compliance monitoring shows an out of range reading (Guidance, page 13). Some of the terminology has changed, as a result of comments from regulated sources, but the requirements in the permit do not conflict with the guidance.

Upon further review, OAM has decided to make the following revisions to the permit (bolded language has been added, the language with a line through it has been deleted). The Table of Contents has been modified to reflect these changes.

1. Condition D.3.2 will be deleted because the requirements in 326 IAC 1-6-1 and 326 IAC 1-6-3 specify that the requirement to maintain a Preventive Maintenance Plan is applicable to any facility that is required to obtain a permit under 326 IAC 2-1-2 (Registration) and 326 IC 2-1-4 (Operating Permits). IDEM's compliance monitoring guidance states that a compliance monitoring plan is required only for:
 - (a) The unit emits particulate matter, sulfur dioxide, or volatile organic compounds; and
 - (b) The unit has existing applicable requirements; and
 - (c) The unit is subject to a NSPS or NESHAP (for these units current requirements will satisfy as a compliance monitoring plan); or
 - (d) The unit has a control device and the allowable emissions exceed 10 pounds per hour; or;
 - (e) The unit does not have a control device and has actual emissions exceeding 25 tons per year.

In most cases, the requirement to maintain a preventive maintenance plan and perform compliance monitoring has followed the same guidelines as specified above.

The emission unit in Section D.3 does not meet the guidance stated above, therefore, the preventive maintenance plan is not required. The condition will be deleted from Section D.3 and in the Table of Contents.

**Indiana Department of Environmental Management (IDEM)
Office of Air Management**

**Technical Support Document (TSD) for a
Minor Source Operating Permit**

Source Background and Description

Source Name:	Skyline Bristol, Plant 111
Source Location:	State Road #15, Bristol, Indiana 46507
County:	Elkhart
Construction Permit No.:	039-12326-00308
SIC Code:	2451
Permit Reviewer:	ERG/EG

The Office of Air Management (OAM) has reviewed the permit renewal application from Skyline Home relating to the proposed modifications and the existing operations of a manufactured home production.

Source Definition

This manufactured homes company consists of four (4) plants:

- (a) Plant 112 is located at U.S. Highway 33 South, Goshen, Indiana.
- (b) Plant 111 is located at State Road #15, Bristol, Indiana.
- (c) Plant 812 is located at 1800 West Hively Avenue, Elkhart, Indiana.
- (d) Plant 616 is located at 401 County Road 15 South, Elkhart, Indiana.

These four (4) plants are not located in contiguous properties, but have the same SIC codes except for Plant 616 and are owned by one (1) company, they will be considered four (4) separate sources. Each source produces their own product and production materials are not shared between facilities.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) woodworking shop equipped with various wood cutting saws with one (1) cyclone exhausting outside the building through stack No. 2.
- (b) One (1) gypsum operation with various cutting saws vented to the a baghouse dust collector then vented internally.
- (c) Twenty-nine (29) natural gas space heaters, heated at a total of 4.9 million British thermal units (MMBtu) per hour, exhausting at twenty-nine (29) stacks, identified as Stacks 3 through 31.

- (d) Facility is also using caulks, sealants, cleaners, and other miscellaneous VOC containing materials used to assemble manufactured homes.

Proposed Emission Units

The source consists of the following proposed modifications:

- (a) The permitted emissions units a, b, and d will increase their maximum capacity to one (1.0) floors per hour (approximately 10,000 lbs per hour).

Existing Approvals

All conditions from previous approvals were incorporated into this permit except the following from CP-039-4346-00308, issued on September 8, 1995

- (a) Condition 5: that the particulate matter overspray from the surface coating facilities shall be considered in compliance with 326 IAC 6 provided that the overspray is not:
- (1) Visibly detectable at the exhaust, or
 - (2) Accumulated on the rooftops or on the ground.
- (b) Reason not incorporated: the source no longer spray applies to any surface coatings or solvents .
- (c) Condition 6: That pursuant to 326 IAC 6-3-2, the particulate matter (PM) emissions due to woodworking activities shall be limited to 7.75 pounds per hour.
- (d) Reason not incorporated: The source will increase process weight rate from 5,188 pounds per hour to 10,000 pounds per hour.

All conditions from previous approvals were incorporated into this permit except the following from CP-039-5237-00308, issued on February 1, 1996.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
2	Woodworking saws	30 above ground	4	5500	ambient
3-31	Gas Space Heaters	16-25 above ground	0.5	400 each	300

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

- (a) Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.
- (b) An application for the purposes of this review was received on May 9, 2000, with additional information received on July 3, 2000.

Emissions Calculations

See Appendix A of this document for detailed emissions calculations (pages 1-8) . An EPA approved report by the Society of the Plastics Industry's Polymethanes Division found the MDI is used up in the reaction during the application of the product, thus, no emissions of methylene diphenyl diisocyanate (MDI) are reported in the emission calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	197.3
PM-10	41.7
SO ₂	0.01
VOC	43.7
CO	1.8
NO _x	2.2

HAP's	Potential To Emit (tons/year)
Xylene	0.1
Toluene	1.8
Methyl Ethyl Ketone	1.9
Hexane	1.2
Ethylene Glycol	0.5
Other HAPs	0.04
TOTAL	5.9

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of each criteria pollutant is less than one hundred (100) tons per year (PM-10 is the criteria pollutant considered under 326 IAC 2-7, not PM). Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

- (c) The potential to emit (as defined in 326 IAC 2-6-1) of all criteria pollutants are more than ten (10) tons per year and located in Elkhart County. Therefore, the source is subject to the provisions of 326 IAC 2-6. The source was already a MSOP before the renewal application and with the modifications the source is still a MSOP.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1999 OAM emission data.

Pollutant	Actual Emissions (tons/year)
PM-10	not reported
VOC	4

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
Woodworking and Gypsum	39.4	3.9					
Natural Gas Fired Space Heaters	0.2	0.2	0.01	0.1	1.8	2.2	0.04
Miscellaneous Product Materials				43.6			5.9
Total Emissions	39.6	4.1	0.01	43.7	1.8	2.2	5.9

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	Attainment
SO ₂	Attainment
NO ₂	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed

pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

- (b) Elkhart County has been classified as attainment or unclassifiable for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	19.9
PM10	2.1
SO ₂	0.01
VOC	21.9
CO	1.8
NO _x	2.2

- (a) This existing source is not a major stationary source because no attainment regulated pollutants are emitted at a rate of 250 tons per year or more, and this source is not one of the 28 listed source categories.

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO ₂ (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO _x (ton/yr)
Proposed Modification	19.6	1.9	0	21.8	0	0
PSD or Offset Threshold Level	250	250	250	250	250	250

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

This proposal modification could have been reviewed as a minor permit revision to a MSOP, but the renewal of their operating permit and the proposed modifications from this current application was done together in this MSOP.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including emissions from the proposed modifications are still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) Each criteria pollutant is less than 100 tons per year,
- (b) A single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) Any combination of HAPs is less than 25 tons/year.

Federal Rule Applicability

40 CFR Part 63 Subpart JJ (National Emission Standards for Wood Furniture Manufacturing Operations)

This source is not subject to 40 CFR Part 63 Subpart JJ because this source does not manufacture wood furniture or wood furniture components as defined by Subpart JJ.

There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year and is located in Elkhart County. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

Pursuant to this rule, the permittee shall be in violation of 326 IAC 6-4 (Fugitive Dust Emissions) if any of the criteria specified in 326 IAC 6-4-2(1) through (4) are violated. Observations of visible emissions crossing the property line of a source at or near ground level must be made by a qualified representative of IDEM [326 IAC 6-4-5(c)].

326 IAC 6-5 (Fugitive Particulate Matter Emissions)

Pursuant to this rule, the permittee shall control PM emissions at the source according to the control plan required in 326 IAC 6-5-3, to be submitted by the permittee to IDEM.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

Pursuant to CP 039-4346-00308, issued on September 8, 1995, the particulate matter (PM) from the spray guns, gypsum and woodworking operations shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The cyclone and baghouse dust collector shall be in operation at all times the when performing woodworking gypsum operations respectively in order to comply with this limit.

326 IAC 2-4.1 (Major Sources of Hazardous Pollutants)

This source is not subject to the requirements of 326 IAC 2-4.1 because the potential to emit (PTE) of:

- (a) A single hazardous pollutant (HAP) is less than 10 tons per year, and
- (b) Any combination of HAPs is less than 25 tons per year.

326 IAC 8-1-6 (New Facilities; General Reduction Requirements)

Although this source is constructing a new facility which will have a potential to emit volatile organic compounds greater than twenty-five (25) tons per year (tpy), the source has agreed to limit the actual VOC emissions to less than 25 tpy per twelve (12) consecutive month period, rolled monthly. Therefore, rule 326 IAC 8-1-6 does not apply.

326 IAC 8-11-3 (Wood Furniture Coating)

This source is not subject to the requirements of 326 IAC 8-11-3 because this source only applies surface coating to interior wood and gypsum walls of manufactured homes and not to wood furniture.

Conclusion

The operation of this manufactured home plant shall be subject to the conditions of the attached proposed Minor Source Operating Permit 039-12326-00308.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Space Heaters

Company Name: Skyline
Address City IN Zip: Bristol 46507
MSOP: 039-12326-00308
Pit ID: 308
Reviewer: ERG/EG
Date: 08/7/00

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

Page 1 of 8 TSD App A

4.93

43.1

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	7.60	7.60	0.60	100.00	5.50	84.00
Potential Emission in tons/yr	0.16	0.16	0.01	**see below	0.12	1.81

*PM and PM10 emission factors are combined filterable and condensable PM and PM10, respectively.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 7/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	4.530E-05	2.589E-05	1.618E-03	3.883E-02	7.334E-05

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.079E-05	2.373E-05	3.020E-05	8.197E-06	4.530E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

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updated 7/00

Appendix A: Emission Calculations
HAP Emission Calculations

Company Name: Skyline
Address City IN Zip: Bristol 46507
MSOP: 039-12326-00308
Pit ID: 308
Permit Reviewer: ERG/EG
Date: 08/7/00

Table 1: Potential to Emit at Proposed Maximum Production Level

Page 3 of 8 TSD AppA

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % MEK	Weight % MDI	Weight % Hexane	Weight % Ethylene Glycol	Weight % Ethyl Benzene	Weight % Isobutyl phthalate	Weight % Glycol Ethers	Weight % Methanol	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	MEK Emissions (ton/yr)	MDI Emissions (ton/yr)	Hexane Emissions (ton/yr)	Ethylene Glycol Emissions (ton/yr)	Ethyl Benzene Emissions (ton/yr)	Dibutyl Phthalate Emission (ton/yr)	Glycol Ethers (ton/yr)	Methanol Emissions (ton/yr)
Oatey Flowguard	7.589	0.052800	1.00	0.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oatey ABS Cement	7.089	0.071500	1.00	0.00%	0.00%	75.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enerfoam	10.008	0.098900	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foamseal F2100A	10.24	2.041200	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foamseal F2100B	8.68	2.155000	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pemco 5100 Adhesive	9.34	2.530000	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sun 59-10 Adhesive	9.1	1.572000	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lokweld 500 Adhesive	6.855	0.176000	1.00	0.00%	14.90%	0.00%	0.00%	19.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.79	0.00	0.00	1.04	0.00	0.00	0.00	0.00	0.00
Enerfoam Cleaner	7.99	0.008800	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foamseal GC33	8.198	0.005500	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	60.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00
Mineral Spirits	6.43	0.012100	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pemco 1983	7.923	0.220000	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Johnson Shine-up	7.306	0.033000	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bostik 900	10.11	0.022000	1.00	4.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.90%	0.00%	0.00%	0.00%	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Roof Cement	9.4	2.660000	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DAP Alex Caulk	14.43	0.301000	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rectorseal Pipe Dope	11.425	0.014300	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	23.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00
C-Js Sta Dry	5.796	0.123000	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sun 4512 Vapor Barrier	9.59	2.530000	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Color Putty	8.34	0.076500	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DAP Wood Dough	9.92	0.008300	1.00	0.00%	0.00%	10.00%	0.00%	0.00%	0.00%	0.00%	5.00%	0.00%	0.00%	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Leak Detector	8.665	0.022000	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	43.10%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.00
DAP Spray Paint	6.26	0.033000	1.00	5.00%	20.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.05	0.18	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DAP Kwik Seal	12.51	0.055000	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00
Fuller SC=0288	10.52	0.033000	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DAP Grout	16.18	0.020400	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	2.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
Geocel 2000	8.17	0.037400	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kampel Seamfil	9.2	0.002200	1.00	20.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.02	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Buckeye Workout	8.34	0.022000	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00
Cyclo C-111	6.34	0.055000	1.00	0.00%	30.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyclo C-31	8.26	0.030800	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Lokweld 110 Solvent	6.11	0.027500	1.00	0.00%	23.50%	0.00%	0.00%	14.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.17	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00
DS50 Tile Adhesive	11.51	0.044000	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
TACC MH24000	11.41	0.792000	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gunther Ultrabond	8.92	0.002200	1.00	0.00%	10.00%	0.00%	0.00%	30.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.01	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Parabond M-423	9.17	0.110000	1.00	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%	0.00%	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
Oatey PVC Cement	7.51	0.001100	1.00	0.00%	0.00%	60.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-Js Sta-Put	7.82	0.008800	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3M Super 77	5.81	0.014300	1.00	0.00%	0.00%	0.00%	0.00%	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Seal-Krete	8.53	0.115500	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Total State Potential Emissions 0.10 1.78 1.90 0.00 1.17 0.53 0.01 0.02 0.32 0.18

METHODOLOGY

TOTAL HAP
5.92

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Table 2: Potential to Emit at Existing Production Level

Page 4 of 8 TSD AppA

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % MEK	Weight % MDI	Weight % Hexane	Weight % Ethylene Glycol	Weight % Ethyl Benzene	Weight % n-butyl phthalate	Weight % Glycol Ethers	Weight % Methanol	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	MEK Emissions (ton/yr)	MDI Emissions (ton/yr)	Hexane Emissions (ton/yr)	Ethylene Glycol Emissions (ton/yr)	Ethyl Benzene Emissions (ton/yr)	Dibutyl Phthalate Emission (ton/yr)	Glycol Ethers (ton/yr)	Methanol Emissions (ton/yr)
Oatey Flowguard	7.589	0.052800	0.50	0.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oatey ABS Cement	7.089	0.071500	0.50	0.00%	0.00%	75.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enerfoam	10.008	0.098900	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foamseal F2100A	10.24	2.041200	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foamseal F2100B	8.68	2.155000	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pemco 5100 Adhesive	9.34	2.530000	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sun 59-10 Adhesive	9.1	1.572000	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lokweld 500 Adhesive	6.855	0.176000	0.50	0.00%	14.90%	0.00%	0.00%	19.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.39	0.00	0.00	0.52	0.00	0.00	0.00	0.00	0.00
Enerfoam Cleaner	7.99	0.008800	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foamseal GC33	8.198	0.005500	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	60.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Mineral Spirits	6.43	0.012100	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pemco 1983	7.923	0.220000	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Johnson Shine-up	7.306	0.033000	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bostik 900	10.11	0.022000	0.50	4.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.90%	0.00%	0.00%	0.00%	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Roof Cement	9.4	2.660000	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DAP Alex Caulk	14.43	0.301000	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rectorseal Pipe Dope	11.425	0.014300	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	23.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
CJs Sta Dry	5.796	0.123000	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sun 4512 Vapor Barrier	9.59	2.530000	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Color Putty	8.34	0.076500	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DAP Wood Dough	9.92	0.008300	0.50	0.00%	0.00%	10.00%	0.00%	0.00%	0.00%	0.00%	5.00%	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Leak Detector	8.665	0.022000	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	43.10%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00
DAP Spray Paint	6.26	0.033000	0.50	5.00%	20.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.02	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DAP Kwik Seal	12.51	0.055000	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Fuller SC=0288	10.52	0.033000	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DAP Grout	16.18	0.020400	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	2.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Geocel 2000	8.17	0.037400	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kampel Seamfil	9.2	0.002200	0.50	20.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Buckeye Workout	8.34	0.022000	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Cyclo C-111	6.34	0.055000	0.50	0.00%	30.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyclo C-31	8.26	0.030800	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
Lokweld 110 Solvent	6.11	0.027500	0.50	0.00%	23.50%	0.00%	0.00%	14.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.09	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00
DS50 Tile Adhesive	11.51	0.044000	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
TACC MH24000	11.41	0.792000	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gunther Ultrabond	8.92	0.002200	0.50	0.00%	10.00%	0.00%	0.00%	30.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Parabond M-423	9.17	0.110000	0.50	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Oatey PVC Cement	7.51	0.001100	0.50	0.00%	0.00%	60.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CJs Sta-Put	7.82	0.008800	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3M Super 77	5.81	0.014300	0.50	0.00%	0.00%	0.00%	0.00%	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Seal-Krete	8.53	0.115500	0.50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Total State Potential Emissions

0.05

0.89

0.95

0.00

0.59

0.27

0.00

0.01

0.16

0.09

METHODOLOGY

TOTAL HAP

2.96

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

12326calc.wk4 7/00

**Emissions Calculations
PM and PM10 Emissions**

Company Name: Skyline
Address City IN Zip: Bristol 46507
MSOP: 039-12326-00308
Plt ID: 308
Reviewer: ERG/EG
Date: 08/7/00

Table 1: Potential to Emit at Proposed Maximum Production Level

Page 5 of 8 TSD App A

Potential Throughput
1 floor/hr

PM Emission Factor	45.00	lb of sawdust/floor		
PM10 Emission Factor	5.00	lb of gypsum dust/floor		
	PTE before control		Emissions after control	
	PM	PM10	PM	PM10
Potential Emission in tons/yr of sawdust PM	197.10	19.71	39.42	3.94
Potential Emission in tons/yr of gypsum PM10		21.90		0.02
Total	197.1	41.61	39.42	3.96

*PM emission factor considering all PM emissions, filterable PM and filterable PM-10 and condensable PM10 combined.

**Assuming that 10% of the sawdust is PM10

**Assuming that all gypsum is PM10

Methodology

The sawdust operations are controlled by cyclone assuming 80% control efficiency.

The gypsum operations are controlled by baghouse assuming 99.9% control efficiency.

Emission Factors are from plant estimates

Table 2: Potential to Emit at Existing Production Level

Page 6 of 8 TSD App A

Potential Throughput
0.5 floor/hr

PM Emission Factor	45.00	lb of sawdust/floor		
PM10 Emission Factor	5.00	lb of gypsum dust/floor		
	PTE before control		Emissions after control	
	PM	PM10	PM	PM10
Potential Emission in tons/yr of sawdust PM	98.55	9.86	19.71	1.97
Potential Emission in tons/yr of gypsum PM10		10.95		0.01
Total	98.55	20.81	19.71	1.98

*PM emission factor considering all PM emissions, filterable PM and filterable PM-10 and condensable PM10 combined.

**Assuming that 10% of the sawdust is PM10

**Assuming that all gypsum is PM10

Methodology

The sawdust operations are controlled by cyclone assuming 80% control efficiency.

The gypsum operations are controlled by baghouse assuming 99.9% control efficiency.

Emission Factors are from plant estimates

12326cal.wk4

updated 7/00

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations**

**Company Name: Skyline
Address City IN Zip: Bristol 46507
CP: 039-12326-00308
Pit ID: 308
Reviewer: ERG/EG
Date: 08/7/00**

Table 1: Potential to Emit at Proposed Maximum Production Level

Page 7 of 8 TSD App A

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % VOC	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency*
Oatey Flowguard	7.589	56.00%	0.0%	56.00%	0.0%	44.00%	0.052800	1.00	4.25	0.22	5.39	0.98	0.00	9.66	100%
Oatey ABS Cement	7.089	78.00%	0.0%	78.00%	0.0%	22.00%	0.071500	1.00	5.53	0.40	9.49	1.73	0.00	25.13	100%
Enerfoam	10.008	0.00%	0.0%	0.00%	0.0%	0.00%	0.098900	1.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Foamseal F2100A	10.24	0.00%	0.0%	0.00%	0.0%	100.00%	2.041200	1.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Foamseal F2100B	8.68	4.40%	2.6%	1.80%	0.0%	95.70%	2.155000	1.00	0.16	0.34	8.08	1.47	0.00	0.16	100%
Pemco 5100 Adhesive	9.34	0.00%	0.0%	0.00%	0.0%	100.00%	2.530000	1.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Sun 59-10 Adhesive	9.1	50.00%	50.0%	0.00%	50.0%	40.00%	1.572000	1.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Lokweld 500 Adhesive	6.855	79.00%	24.7%	54.30%	24.7%	21.00%	0.176000	1.00	3.72	0.66	15.72	2.87	0.00	17.73	100%
Enerfoam Cleaner	7.99	95.80%	0.0%	95.80%	0.0%	0.00%	0.008800	1.00	7.65	0.07	1.62	0.30	0.00	0.00	100%
Foamseal GC33	8.198	100.00%	0.0%	100.00%	0.0%	0.00%	0.005500	1.00	8.20	0.05	1.08	0.20	0.00	0.00	100%
Mineral Spirits	6.43	100.00%	0.0%	100.00%	0.0%	0.00%	0.012100	1.00	6.43	0.08	1.87	0.34	0.00	0.00	100%
Pemco 1983	7.923	100.00%	0.0%	100.00%	0.0%	0.00%	0.220000	1.00	7.92	1.74	41.83	7.63	0.00	0.00	100%
Johnson Shine-up	7.306	100.00%	76.0%	24.00%	76.0%	0.00%	0.033000	1.00	1.75	0.06	1.39	0.25	0.00	0.00	100%
Bostik 900	10.11	100.00%	93.8%	6.20%	93.8%	0.00%	0.022000	1.00	0.63	0.01	0.33	0.06	0.00	0.00	100%
Roof Cement	9.4	100.00%	81.6%	18.40%	81.6%	0.00%	2.660000	1.00	1.73	4.60	110.42	20.15	0.00	0.00	100%
DAP Alex Caulk	14.43	0.90%	0.0%	0.90%	0.0%	99.10%	0.301000	1.00	0.13	0.04	0.94	0.17	0.00	0.13	100%
Rectorseal Pipe Dope	11.425	23.00%	0.0%	23.00%	0.0%	77.00%	0.014300	1.00	2.63	0.04	0.90	0.16	0.00	3.41	100%
CJs Sta Dry	5.796	0.00%	0.0%	0.00%	0.0%	100.00%	0.123000	1.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Sun 4512 Vapor Barrior	9.59	100.00%	99.3%	0.70%	99.3%	0.00%	2.530000	1.00	0.07	0.17	4.08	0.74	0.00	0.00	60%
Color Putty	8.34	0.00%	0.0%	0.00%	0.0%	100.00%	0.076500	1.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
DAP Wood Dough	9.92	100.00%	61.6%	38.40%	61.6%	0.00%	0.008300	1.00	3.81	0.03	0.76	0.14	0.00	0.00	100%
Leak Detector	8.665	44.50%	0.0%	44.50%	0.0%	0.00%	0.022000	1.00	3.86	0.08	2.04	0.37	0.00	0.00	100%
DAP Spray Paint	6.26	100.00%	19.0%	81.00%	19.0%	0.00%	0.033000	1.00	5.07	0.17	4.02	0.73	0.00	0.00	100%
DAP Kwik Seal	12.51	4.34%	0.0%	4.34%	0.0%	95.66%	0.055000	1.00	0.54	0.03	0.72	0.13	0.00	0.57	100%
Fuller SC=0288	10.52	22.00%	0.0%	22.00%	0.0%	78.00%	0.033000	1.00	2.31	0.08	1.83	0.33	0.00	2.97	100%
DAP Grout	16.18	12.30%	0.0%	12.27%	0.0%	87.70%	0.020400	1.00	1.99	0.04	0.97	0.18	0.00	2.26	100%
Geocel 2000	8.17	34.20%	0.0%	34.20%	0.0%	65.80%	0.037400	1.00	2.79	0.10	2.51	0.46	0.00	4.25	100%
Kampel Seamfil	9.2	53.50%	0.0%	53.50%	0.0%	46.50%	0.002200	1.00	4.92	0.01	0.26	0.05	0.00	10.58	100%
Buckeye Workout	8.34	98.00%	91.0%	7.00%	91.0%	2.00%	0.022000	1.00	0.58	0.01	0.31	0.06	0.00	29.19	100%
Cyclo C-111	6.34	100.00%	26.0%	74.00%	26.0%	0.00%	0.055000	1.00	4.69	0.26	6.19	1.13	0.00	0.00	100%
Cyclo C-31	8.26	99.00%	85.0%	14.00%	85.0%	1.00%	0.030800	1.00	1.16	0.04	0.85	0.16	0.00	115.64	100%
Lokweld 110 Solvent	6.11	70.80%	0.0%	70.80%	0.0%	0.00%	0.027500	1.00	4.33	0.12	2.86	0.52	0.00	0.00	100%
DS50 Tile Adhesive	11.51	4.10%	0.0%	4.10%	0.0%	0.00%	0.044000	1.00	0.47	0.02	0.50	0.09	0.00	0.00	100%
TACC MH24000	11.41	3.20%	0.0%	3.20%	0.0%	96.80%	0.792000	1.00	0.37	0.29	6.94	1.27	0.00	0.38	100%
Gunther Ultrabond	8.92	34.80%	0.0%	34.80%	0.0%	65.20%	0.002200	1.00	3.10	0.01	0.16	0.03	0.00	4.76	100%
Parabond M-423	9.17	47.00%	40.1%	6.90%	40.1%	53.00%	0.110000	1.00	0.63	0.07	1.67	0.30	0.00	1.19	100%
Oatey PVC Cement	7.51	90.00%	0.0%	90.00%	0.0%	10.00%	0.001100	1.00	6.76	0.01	0.18	0.03	0.00	67.59	100%
CJs Sta-Put	7.82	82.15%	0.0%	82.15%	0.0%	0.00%	0.008800	1.00	6.42	0.06	1.36	0.25	0.00	0.00	100%
3M Super 77	5.81	75.00%	0.0%	75.00%	0.0%	25.00%	0.014300	1.00	4.36	0.06	1.50	0.27	0.00	17.43	100%
Seal-Krete	8.53	90.00%	89.2%	0.78%	89.2%	10.00%	0.115500	1.00	0.07	0.01	0.18	0.03	0.00	0.67	100%

State Potential Emissions

9.96

238.93

43.60

0.00

Table 2: Potential to Emit at Existing Production Level

Material	Density (lb/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % VOC	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency*
Oatey Flowguard	7.589	56.00%	0.0%	56.00%	0.0%	44.00%	0.052800	0.50	4.25	0.11	2.69	0.49	0.00	9.66	100%
Oatey ABS Cement	7.089	78.00%	0.0%	78.00%	0.0%	22.00%	0.071500	0.50	5.53	0.20	4.74	0.87	0.00	25.13	100%
Enerfoam	10.008	0.00%	0.0%	0.00%	0.0%	0.00%	0.098900	0.50	0.00	0.00	0.00	0.00	0.00	0.00	100%
Foamseal F2100A	10.24	0.00%	0.0%	0.00%	0.0%	100.00%	2.041200	0.50	0.00	0.00	0.00	0.00	0.00	0.00	100%
Foamseal F2100B	8.68	4.40%	2.6%	1.80%	0.0%	95.70%	2.155000	0.50	0.16	0.17	4.04	0.74	0.00	0.16	100%
Pemco 5100 Adhesive	9.34	0.00%	0.0%	0.00%	0.0%	100.00%	2.530000	0.50	0.00	0.00	0.00	0.00	0.00	0.00	100%
Sun 59-10 Adhesive	9.1	50.00%	50.0%	0.00%	50.0%	40.00%	1.572000	0.50	0.00	0.00	0.00	0.00	0.00	0.00	100%
Lokweld 500 Adhesive	6.855	79.00%	24.7%	54.30%	24.7%	21.00%	0.176000	0.50	3.72	0.33	7.86	1.43	0.00	17.73	100%
Enerfoam Cleaner	7.99	95.80%	0.0%	95.80%	0.0%	0.00%	0.008800	0.50	7.65	0.03	0.81	0.15	0.00	0.00	100%
Foamseal GC33	8.198	100.00%	0.0%	100.00%	0.0%	0.00%	0.005500	0.50	8.20	0.02	0.54	0.10	0.00	0.00	100%
Mineral Spirits	6.43	100.00%	0.0%	100.00%	0.0%	0.00%	0.012100	0.50	6.43	0.04	0.93	0.17	0.00	0.00	100%
Pemco 1983	7.923	100.00%	0.0%	100.00%	0.0%	0.00%	0.220000	0.50	7.92	0.87	20.92	3.82	0.00	0.00	100%
Johnson Shine-up	7.306	100.00%	76.0%	24.00%	76.0%	0.00%	0.033000	0.50	1.75	0.03	0.69	0.13	0.00	0.00	100%
Bostik 900	10.11	100.00%	93.8%	6.20%	93.8%	0.00%	0.022000	0.50	0.63	0.01	0.17	0.03	0.00	0.00	100%
Roof Cement	9.4	100.00%	81.6%	18.40%	81.6%	0.00%	2.660000	0.50	1.73	2.30	55.21	10.08	0.00	0.00	100%
DAP Alex Caulk	14.43	0.90%	0.0%	0.90%	0.0%	99.10%	0.301000	0.50	0.13	0.02	0.47	0.09	0.00	0.13	100%
Rectorseal Pipe Dope	11.425	23.00%	0.0%	23.00%	0.0%	77.00%	0.014300	0.50	2.63	0.02	0.45	0.08	0.00	3.41	100%
CJs Sta Dry	5.796	0.00%	0.0%	0.00%	0.0%	100.00%	0.123000	0.50	0.00	0.00	0.00	0.00	0.00	0.00	100%
Sun 4512 Vapor Barrier	9.59	100.00%	99.3%	0.70%	99.3%	0.00%	2.530000	0.50	0.07	0.08	2.04	0.37	0.00	0.00	60%
Color Putty	8.34	0.00%	0.0%	0.00%	0.0%	100.00%	0.076500	0.50	0.00	0.00	0.00	0.00	0.00	0.00	100%
DAP Wood Dough	9.92	100.00%	61.6%	38.40%	61.6%	0.00%	0.008300	0.50	3.81	0.02	0.38	0.07	0.00	0.00	100%
Leak Detector	8.665	44.50%	0.0%	44.50%	0.0%	0.00%	0.022000	0.50	3.86	0.04	1.02	0.19	0.00	0.00	100%
DAP Spray Paint	6.26	100.00%	19.0%	81.00%	19.0%	0.00%	0.033000	0.50	5.07	0.08	2.01	0.37	0.00	0.00	100%
DAP Kwik Seal	12.51	4.34%	0.0%	4.34%	0.0%	95.66%	0.055000	0.50	0.54	0.01	0.36	0.07	0.00	0.57	100%
Fuller SC=0288	10.52	22.00%	0.0%	22.00%	0.0%	78.00%	0.033000	0.50	2.31	0.04	0.92	0.17	0.00	2.97	100%
DAP Grout	16.18	12.30%	0.0%	12.27%	0.0%	87.70%	0.020400	0.50	1.99	0.02	0.49	0.09	0.00	2.26	100%
Geocel 2000	8.17	34.20%	0.0%	34.20%	0.0%	65.80%	0.037400	0.50	2.79	0.05	1.25	0.23	0.00	4.25	100%
Kampel Seamfil	9.2	53.50%	0.0%	53.50%	0.0%	46.50%	0.002200	0.50	4.92	0.01	0.13	0.02	0.00	10.58	100%
Buckeye Workout	8.34	98.00%	91.0%	7.00%	91.0%	2.00%	0.022000	0.50	0.58	0.01	0.15	0.03	0.00	29.19	100%
Cyclo C-111	6.34	100.00%	26.0%	74.00%	26.0%	0.00%	0.055000	0.50	4.69	0.13	3.10	0.57	0.00	0.00	100%
Cyclo C-31	8.26	99.00%	85.0%	14.00%	85.0%	1.00%	0.030800	0.50	1.16	0.02	0.43	0.08	0.00	115.64	100%
Lokweld 110 Solvent	6.11	70.80%	0.0%	70.80%	0.0%	0.00%	0.027500	0.50	4.33	0.06	1.43	0.26	0.00	0.00	100%
DS50 Tile Adhesive	11.51	4.10%	0.0%	4.10%	0.0%	0.00%	0.044000	0.50	0.47	0.01	0.25	0.05	0.00	0.00	100%
TACC MH24000	11.41	3.20%	0.0%	3.20%	0.0%	96.80%	0.792000	0.50	0.37	0.14	3.47	0.63	0.00	0.38	100%
Gunther Ultrabond	8.92	34.80%	0.0%	34.80%	0.0%	65.20%	0.002200	0.50	3.10	0.00	0.08	0.01	0.00	4.76	100%
Parabond M-423	9.17	47.00%	40.1%	6.90%	40.1%	53.00%	0.110000	0.50	0.63	0.03	0.84	0.15	0.00	1.19	100%
Oatey PVC Cement	7.51	90.00%	0.0%	90.00%	0.0%	10.00%	0.001100	0.50	6.76	0.00	0.09	0.02	0.00	67.59	100%
CJs Sta-Put	7.82	82.15%	0.0%	82.15%	0.0%	0.00%	0.008800	0.50	6.42	0.03	0.68	0.12	0.00	0.00	100%
3M Super 77	5.81	75.00%	0.0%	75.00%	0.0%	25.00%	0.014300	0.50	4.36	0.03	0.75	0.14	0.00	17.43	100%
Seal-Krete	8.53	90.00%	89.2%	0.78%	89.2%	10.00%	0.115500	0.50	0.07	0.00	0.09	0.02	0.00	0.67	100%

State Potential Emissions

4.98

119.46

21.80

0.00

*Transfer efficiency assumed to be 100% except for Sun 4512 as none of the rest of these materials are spray applied. All materials either brushed, wiped or applied with caulk tube application.

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used